

Appl. No. 10/777,611
Amdt. Dated June 2, 2006
Reply to Office action of March 1, 2006

REMARKS/ARGUMENTS

Claims 1-30 are pending in the present application.

This Amendment is in response to the Office Action mailed March 1, 2006. In the Office Action, the Examiner rejected claims 1-9, 11-19, 21-29 under 35 U.S.C. §103(a). In addition, the Examiner indicated allowable subject matter for claims 10, 20, and 30 if they are rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicant has amended claims 1, 11, and 21, and added new claims 31-34. Applicant submits that the newly-added claims introduce no new matter. Reconsideration in light of the amendments and remarks made herein is respectfully requested.

Rejection Under 35 U.S.C. § 103

In the Office Action, the Examiner rejected claims 1, 11, and 21 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,805,882 issued to Cooper et al. ("Cooper") in view of U.S. Patent No. 5,844,986 issued to Davis ("Davis"); and claims 2-9, 12-19, and 22-29 under 35 U.S.C. §103(a) as being unpatentable over Cooper and Davis, as applied to claims 1, 11, and 21 and further in view of U.S. Patent No. 6,266,810 issued to Tanaka et al. ("Tanaka"). Applicant respectfully traverses the rejection and contends that the Examiner has not met the burden of establishing a *prima facie* case of obviousness.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. *MPEP §2143, p. 2100-129 (8th Ed., Rev. 2, May 2004)*. Applicants respectfully contend that there is no suggestion or motivation to combine their teachings, and thus no *prima facie* case of obviousness has been established.

1. Claims 1, 11, and 21:

Cooper discloses a computer system and method for replacing obsolete or corrupt boot code contained within a flash ROM. The flash ROM is connected to a mobile super I/O (MSIO) chip and the MSIO is connected to a system controller (Cooper, col. 5, lines 29-31).

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Davis discloses a secure BIOS. A cryptographic coprocessor 34 includes a local non-volatile memory 42 (Davis, col. 3, lines 11-13). A boot-up program 43 is stored within the non-volatile memory 42 (Davis, col. 3, lines 18-19). A host processor issues a replace BIOS command to the cryptographic coprocessor (Davis, col. 3, lines 48-50). The cryptographic coprocessor either passively receives the new BIOS program code from the host processor or actively retrieves it from a specified source (e.g., system memory) (Davis, col. 3, lines 54-57).

Cooper and Davis, taken alone or in any combination, do not disclose, suggest, or render obvious, at least one of (1) receiving programming information to update a firmware device autonomously without intervention of an external processor, the firmware device containing a boot code for a processor in a chipset separated from the processor from a communication interface; and (2) parsing the programming information into control commands and program data by a parser.

There is no motivation to combine Cooper and Davis because neither of them addresses the problem of self-updating a firmware device. There is no teaching or suggestion that updating autonomously without intervention of an external processor is present.

Cooper merely discloses replacing obsolete boot code and parsing commands transmitted over a parallel port and executing the commands by a microcontroller 174 (Cooper, col. 12, lines 37-39), not autonomously without intervention of an external processor. Furthermore, Cooper does not disclose a chipset. Davis merely discloses a host processor issuing a replace BIOS command to the cryptographic coprocessor (Davis, col. 3, lines 48-50), not autonomously without intervention of an external processor, and not parsing the programming information and control commands by a parser. Furthermore, Davis merely discloses the cryptographic coprocessor receiving the new BIOS program code from the host processor or a system memory (Davis, col. 3, lines 48-50), not from a communication interface. Cooper, read as a whole, does not suggest the desirability of updating a boot code in a chipset autonomously without intervention of an external processor. To clarify this aspect of the invention, claims 1, 11, and 21 have been amended.

In the present invention, the cited references do not expressly or implicitly suggest updating a boot code in a chipset. In addition, the Examiner failed to present a convincing line

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of reasoning as to why a combination of Cooper and Davis is an obvious application of self-updating a firmware device in a chipset separated from the processor.

2. Claims 2-9, 12-19, and 22-29:

Cooper discloses a computer system and method for replacing obsolete or corrupt boot code contained within a flash ROM and Davis discloses a secure BIOS as discussed above.

Tanaka discloses a remote program downloading system and apparatus. A program acquiring means reads a packet into a buffer memory (Tanaka, col. 6, lines 14-19). A program storing means stores only the program main body into a flash ROM on the basis of the information in the buffer (Tanaka, col. 6, lines 20-24).

Cooper, Davis and Tanaka, taken alone or in any combination, do not disclose, suggest, or render obvious, at least one of (1) receiving programming information to update a firmware device autonomously without intervention of an external processor, the firmware device containing a boot code for a processor in a chipset separated from the processor from a communication interface; (2) parsing the programming information into control commands and program data by a parser; and (3) programming the firmware device based on control commands by control logic circuit, (4) storing the program data in a buffer, (5) selecting one of the programming information and an I/O channel data by a multiplexer, (6) recognizing self-update identifier, (7) reading program parameters, etc., and (8) converting serial data into the programming information by a serial to parallel converter.

There is no motivation to combine Cooper, Davis, and Tanaka because none of them addresses the problem of self-updating a firmware device in a chipset separated from the processor. There is no teaching or suggestion that a chipset separated from the processor is present.

As discussed above, Cooper merely discloses replacing obsolete boot code and parsing commands transmitted over a parallel port and executing the commands by a microcontroller 174 (Cooper, col. 12, lines 37-39), not autonomously without intervention of an external processor. Furthermore, Cooper does not disclose a chipset. Davis merely discloses a host processor issuing a replace BIOS command to the cryptographic coprocessor (Davis, col. 3, lines 48-50), not autonomously without intervention of an external processor, and not parsing the programming information and control commands by a parser. Furthermore, Davis merely

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discloses the cryptographic coprocessor receiving the new BISO program code from the host processor or a system memory (Davis, col. 3, lines 48-50), not from a communication interface. Tanaka merely discloses reading the program control information into its own buffer memory (Tanaka, col. 4, lines 41-45). This is not the same as storing the program data in a buffer. Cooper, read as a whole, does not suggest the desirability of updating a boot code in a chipset.

3. New Claims 31-34:

Applicants contend that none of the cited prior art references discloses, suggest, or renders obvious, (1) selecting a source from a communication interface to provide programming information to update a firmware device and an input and output (I/O) channel to provide normal information for a normal operation, (2) the firmware device containing a boot code for a processor in a chipset separated from the processor, the source providing input data; and (3) parsing the programming information into control commands and program data if the input data contains a self-update identifier

In summary, the Examiner failed to establish a prima facie case of obviousness and failed to show there is teaching, suggestion or motivation to combine the references. When applying 35 U.S.C. 103, the following tenets of patent law must be adhered to: (A) The claimed invention must be considered as a whole; (B) The references must be considered as a whole and must suggest the desirability and thus the obviousness of making the combination; (C) The references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention; and (D) Reasonable expectation of success is the standard with which obviousness is determined. Hodosh v. Block Drug Co., Inc., 786 F.2d 1136, 1143 n.5, 229 USPQ 182, 187 n.5 (Fed. Cir. 1986). "When determining the patentability of a claimed invention which combined two known elements, 'the question is whether there is something in the prior art as a whole suggest the desirability, and thus the obviousness, of making the combination.'" In re Beattie, Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co., 730 F.2d 1452, 1462, 221 USPQ (BNA) 481, 488 (Fed. Cir. 1984). To defeat patentability based on obviousness, the suggestion to make the new product having the claimed characteristics must come from the prior art, not from the hindsight knowledge of the invention. Interconnect Planning Corp. v. Feil, 744 F.2d 1132, 1143, 227 USPQ (BNA) 543, 551 (Fed. Cir. 1985). To prevent the use of hindsight based on the invention to defeat patentability of the invention, this court requires the Examiner to

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show a motivation to combine the references that create the case of obviousness. In other words, the Examiner must show reasons that a skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the prior elements from the cited prior references for combination in the manner claimed. In re Rouffet, 149 F.3d 1350 (Fed. Cir. 1996), 47 USPQ 2d (BNA) 1453. "To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or implicitly suggest the claimed invention or the Examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references." Ex parte Clapp, 227 USPQ 972, 973. (Bd.Pat.App.&Inter. 1985). The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. In re Mills, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). Furthermore, although a prior art device "may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the reference to do so." In re Mills 916 F.2d at 682, 16 USPQ2d at 1432; In re Fitch, 972 F.2d 1260, 23 USPQ2d 1780 (Fed. Cir. 1992).

In the present invention, the cited references do not expressly or implicitly suggest any of the above elements. In addition, the Examiner failed to present a convincing line of reasoning as to why a combination of Cooper, Davis and Tanaka is an obvious application of self-updating a firmware device in a chipset.

Therefore, Applicant believes that independent claims 1, 11, and 21 and their respective dependent claims are distinguishable over the cited prior art references. Accordingly, Applicant respectfully requests the rejection under 35 U.S.C. §103(a) be withdrawn.

Allowable Subject Matter

Applicant notes with appreciation the Examiner's indication of allowable subject matter. The Examiner objects to claims 10, 20, and 30 as being dependent on a rejected base claim, but indicates that the claims would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. However, in light of the above remarks, Applicant respectfully requests that independent claims 1, 11, and 21, and all claims that depend therefrom be allowed.

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Conclusion


Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Respectfully submitted,

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Dated: June 2, 2006

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